TEACHERS GUIDE

FOR EDUCATOR
MONROE ADDING-CALCULATOR

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for

EDUCATOR

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MONROE

MONROE CALCULATING MACHINE COMPANY, INC.
Educational Department **Orange, New Jersey**
BRANCH OFFICES IN ALL PRINCIPAL CITIES

A DIVISION OF LITTON INDUSTRIES

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FOREWORD

For many years the Monroe Calculating Machine Company, Inc. has recognized the increasing importance of Office Machine Instruction in schools and colleges and the need, on the part of these institutions, for a special classroom type of calculator for instructional purposes.

To meet this need, Monroe has produced the Educator Model – a machine basically the same as used in thousands of business and professional offices but built exclusively for Educational use. Already it has received wide acceptance in schools offering instruction in the operation of office machines.

To further assist the instructor, Monroe has prepared the following Teacher's Guide for use with the Educator Model. Its aim is to aid the teacher in making the most effective use of the Monroe Educator. As with all equipment of this type, much of value of the instruction depends upon the method of its presentation. The suggestions outlined in this Guide are the result of experiences of many years both in schools and in industry.

Description of the Monroe Educator Model

The Monroe Educator is a manually operated Calculating Machine of the crank or rotary type. It is portable, weighing only nine pounds, and can easily be moved from desk to desk. It is compact, occupying less space than a standard size sheet of letter paper and can readily be placed in storage cabinets when not in use.

This manually operated machine is equipped with seven rows of keys on the Keyboard, six-digit capacity in the Upper Dials and thirteen-digit capacity in the Lower Dials. Its capacity is adequate for all basic instructional purposes.

The standard operating features of Monroe Calculating Machines are used in this model throughout, including - Operating Crank, Clearout Crank, Decimal Markers for Dials and Keyboard, Repeat and Non-Repeat Keys, Master Clear Key and Individual Column Release Keys, and Carriage Shift Lever.

Though small in size, the Educator is sturdily and durably built and will provide many years of useful service in the classroom.

The Educator is practically noiseless. A full battery of these machines may be operated without disturbance to teacher or students.

Correct Operating Technique

The Monroe Educator is the simplest of all calculating machines in its operation. In common with all office equipment, there are always better methods of operation which, if used, will greatly increase the value in use.

Proper operation by students of the Monroe Educator is, therefore, important. Here are a few suggestions to teachers relative to a more effective operation of the machine.

Position of the Machine Do not permit the student to place the machine on the desk squarely in front of him. It should be placed at the right side of the desk at a right-angled slant. This permits room for the lesson assignment to be in front of the student and insures better control of the operating crank.

Operating Crank The Operating Crank is the most important operating feature of the machine and, if used properly, will save effort and improve production of work. In normal position, this Crank should remain at the top. At the left of the Crank is an arrow marked on the Keyboard top plate. This arrow indicates the stopping position of the Crank. The Crank can be moved forward or backwards about an inch away from the arrow without locking the machine, however, any further turn of this Crank, forward or backwards, locks the machine until after a complete revolution of the Crank back to the arrow is made.

If the student operates this Crank with a full arm motion, there is no mechanical method of stopping this Crank at the arrow, and he will be making unnecessary turns of the Crank. This condition can be eliminated by employing the following method for stopping the crank: Rest the elbow or forearm on the desk. Place the thumb on the bottom of the Crank handle with the two forefingers on the top of the handle. In such a position, the back of the hand is up. Make a quick turn of the wrist (not the arm) and stop the Crank at the top, allowing the hand to turn with the Crank handle so that at the final stop the inside of the hand is now at the top and the back of the hand faces the bottom, in a position as if to lift the machine by its handle. If this operation is performed, there is never any difficulty in going beyond the arrow on the final turn. The travel of the Crank in one turn has been designed to be exactly the same distance as a complete turn of the wrist. Practice in this method will result in effective operation with a minimum of effort.

Carriage Shift Lever The fingers of the operator's left hand should be placed against the lower left-hand side of the machine case. In this position, the thumb is poised above the carriage shift lever ready, at any time, to shift this lever in either direction. It is a waste of time and effort for the student to shift this lever with his right hand, since the right hand should be on the operating crank during all operations. The right hand should not be used to operate the shift lever but left free to turn operating crank and clear out crank.

Clear-out Crank The small crank at the right end of the carriage, which normally rests in the bottom position, is used to clear both upper and lower dials. A forward motion, or complete turn, clears the upper dials. A backward motion, or complete turn, clears the lower dials. (Note: When clearing the lower dials, the carriage is simultaneously lifted which is a perfectly normal operation.) Students should be cautioned against making unnecessary clearances; only one turn in either direction is required for a full clearance.

Keyboard Operating Keys At the lower right corner of the Keyboard, three Keys are located, in vertical alignment. The lowest and largest, marked with a cipher, is called the Master Clear Key. When this Key is depressed, the entire Keyboard is cleared. The smaller Key marked "R" in the middle of the vertical row, when depressed, will cause all depressed Keys on the Keyboard to be repeated. It must be in the depressed position for all operations of Multiplication or Division and for any operations of Addition or Subtraction, where it is an advantage to have added amounts remain in the Keyboard for checking purposes or to save repeated setting of similar Keys. The plain red Key, at the top of the three Keys, is the Non-Repeat Key. When this Key is depressed, all amounts set on the Keyboard will be automatically released from the Keyboard with each turn of the Operating Crank. The row of red Keys across the bottom of the Keyboard are Individual Column Release Keys. When depressed, they will clear any depressed Key in that column. Each Key in the Keyboard, when depressed, will clear any other depressed Key in the same column. This is what is known as a Flexible Keyboard.

Decimal Markers The Decimal Arrow Indicators, located on the Upper and Lower Dials, can be moved to any desired decimal position, and at the top of the Keyboard are Knurled Knobs which can be turned to red strips indicating decimal positions for the Keyboard. The number of decimals to be pointed off in any position are always counted from the right. Decimal points can be either preset before the work starts or can be set individually for each figure problem. It should be remembered that the decimals pointed off in the Upper Dials plus those pointed off on the Keyboard must equal the number of decimal places to be pointed off in the Lower Dials.

Why is the Monroe Educator Manually Operated

The experience of this manufacturer in training thousands of office workers and the experience of hundreds of teachers in training students suggested the use of the hand-operated machine rather than the electric.

The hand-operated Monroe Educator performs the four fundamental operations in a manner easily understood by all students and while the student will find that Monroe equipment in their future jobs is predominately electrically operated their basic training is best developed on manually operated machines. And there are certain definite reasons why this is true.

The Monroe Educator mechanically performs Addition, Subtraction, Multiplication and Division in much the same manner as these fundamental operations are handled with pencil and paper. A manually operated machine graphically shows this relationship between mechanical and scratch pad operation.

The Monroe Educator is adapted to any level of proficiency. If the students are slow, medium or fast in their thought processes, the machine mechanically adapts itself to the capability of the operator. An electrically operated Monroe Calculator operates at equal speed for all operators and is confusing to some beginners.

The Monroe Educator is simpler to operate than is the electric and has the further advantage of a much lower price enabling the school to provide a greater number thus widening the scope of instruction.

Importance of Electric Model Instruction

It is recommended, however, that all classes equipped with Monroe Educator Models for basic instruction, supplement such instruction with final training on Monroe electrically operated models. If possible, at least one or two Monroe electric models should be part of the classroom equipment. Thus the students will receive some instruction before graduation on equipment which they will find in use after graduation in jobs they secure in business offices.

In addition to this recommended training on Monroe Calculators, the Branch Offices of the Monroe Calculating Machine Company, Inc. will, whenever possible, arrange at the schools' requests to demonstrate to any graduating class the latest fully automatic models of Monroe Calculators.

Fundamental Demonstration Monroe Educator

All teachers of classes, using the Monroe Educator, will expedite the student's use of the machine if they will give the class a preliminary demonstration of the Educator Model before they start using the machine. To guide the teacher in such a demonstration, so that all the important operations of the machine are fully understood by the students, we present a suggested demonstration covering the four fundamental operations of Arithmetic.

To clarify this demonstration to the students, we feel it important for the teacher to have available at the side of the machine a pencil and a scratch pad. Thus the students will graphically see the close relationship of machine operation with scratch pad figuring and, therefore, have a better understanding and appreciation of a machine operation.

MONROE EDUCATOR

Demonstration

Before giving the demonstration, be sure that the Educator Model is properly positioned on the desk; namely, set on the right at a right-angled slant. Then have scratch pad and pencil on the desk to the left of the machine. Write the following example of addition on the scratch pad:

$$\begin{array}{r} 5.15 \\ 12.83 \\ \underline{4.06} \\ 22.04 \end{array}$$

Addition Demonstration

What to Say	What to Do
Students, I have just written these three amounts on this pad and have then mentally added them and written the total - 22.04.	Point to the three amounts and total written on scratch pad.
This Calculating Machine is called the Monroe Educator, and you will learn how to add, subtract, multiply and divide on it.	Point to the machine.
I will now add on the machine the same figures that were written on this scratch pad. First, I will write 5.15 on this keyboard.	Depress 5.15 in 1st and 2nd and 3rd columns of keys.
Then I will turn this crank one complete turn away from me and now you will find 5.15 written in the lower dials.	Turn operating crank forward once. Point to lower dials.
Next I will write 12.83 on the keyboard. And again I turn the crank forward one complete turn. Now note that the lower dials show 17.98 which is the total of 5.15 and 12.83.	Depress 12.83 in 1st, 2nd, 3rd and 4th column of keys. Turn operating crank forward once. Point to lower dials.
Finally, I will write 4.06 on the keyboard and note that when you want to write a cipher on the keyboard you merely skip that column of keys where the cipher should be.	Depress 4.06 in 1st and 3rd columns of keys.

What to Say	What to Do
And again I turn the crank forward one complete turn.	Turn operating crank forward once.
You will now see in the lower dials 22.04 which is the final answer or total of 5.15, 12.83 and 4.06.	Point to lower dials.
Finally, to add on this machine you write each amount on the keyboard and turn the operating crank forward for each amount, and automatically you will have the correct answer if each amount has been correctly set on the keyboard.	
The next step is to clear the machine so that we can add another column of figures.	Turn clearance crank forward and backward once.

Subtraction Demonstration

The teacher should write on a scratch pad the following problems in subtraction:

$$\begin{array}{r} 7.85 \\ \underline{2.18} \\ 5.67 \end{array} \qquad\qquad \begin{array}{r} 24.30 \\ \underline{5.09} \\ 19.21 \end{array}$$

then proceed to give the following demonstration to the class:

What to Say	What to Do
Similar to addition, I have written on this scratch pad two problems in subtraction and have mentally subtracted the amounts to be subtracted and have written the correct answers.	Point to the two examples on the scratch pad.
I will subtract on the machine the same figures written on this pad. First I will write 7.85 on the keyboard.	Depress 7.85 on the right of the keyboard.
Then I turn the crank one complete turn away from me which writes 7.85 in the lower dials.	Turn operating crank forward once. Point to lower dials.
Then I write 2.18 on the keyboard.	Depress 2.18 on the right of keyboard.

What to Say	What to Do
Since this amount is to be subtracted instead of added, I make one complete turn of the crank towards me.	Turn operating crank backward once.
Now note that in the lower dials is the correct answer - 5.67.	Point to lower dials.
In order to do the next example, it is necessary to clear the lower dials only. I now make one complete revolution of the clearout crank towards me. The machine is now clear.	Point to 5.67 in lower dials. Turn clear crank one turn backwards. Point again to lower and upper dials to show they are clear.
In the same manner, we do the next example. We write 24.30 on the keyboard and do not have to depress any key in the 1st row of keys since a cipher is indicated.	Depress 24.30 on right of keyboard.
Then I turn the crank one complete turn away from me which writes 24.30 in the lower dials.	Turn operating crank forward once. Point to lower dials.
Then I write 5.09 on the keyboard and do not depress any key in the 2nd column due to a cipher.	Depress 5.09 on right of keyboard.
Since this amount is to be subtracted instead of added, I make one complete turn of the crank towards me.	Turn operating crank backwards once.
Now you will again note that in the lower dials is the correct answer 19.21.	Point to lower dials.
Again it is necessary to clear the lower dials only because 19.21 is still there. So I make one complete revolution of the clearout crank towards me. The machine is now clear.	Point to lower dials. Turn clear crank one turn backwards. Point again to lower and upper dials to show they are clear.
At this point students, we must all be sure we understand addition and subtraction on this machine because if we do, we will not have any difficulty in understanding	

What to Say	What to Do
multiplication and division, since those operations are repeated forms of adding and subtracting.	
Remember in adding on the Monroe Educator, write the amount on the keyboard and make one complete turn away from you of the operating crank. To subtract, add the larger amount as just described and then write the smaller amount on the keyboard and make one complete turn TOWARDS you of the operating crank. That is simple, is it not?	

Multiplication Demonstration

Prior to giving students this demonstration, the teacher should show on a scratch pad the following example in multiplication and also write out the pencil and paper method of doing the work so that the students will see the relationship existing between scratch pad and machine calculation.

Example: 396 X 57 = 22,572

$$\begin{array}{r} 396 \\ \underline{57} \\ 2772 \\ \underline{1980} \\ 22572 \end{array}$$

What to Say	What to Do
I have multiplied 396 times 57 on this scratch pad in the same manner as you students would figure this example with pencil and paper. I have done this because it will be easier to follow the machine method when we see and understand the pencil and paper method.	Point to the calculation on the scratch pad.
Before I show you the machine method, suppose I review for you what I did with pencil and paper.	

What to Say	**What to Do**
First I wrote down 396. Next I wrote underneath 396, the multiplier 57 and then drew a line.	Point to 396 on scratch pad. Point to 57 and the line on the pad.
Then mentally I multiplied 396 by 7 and wrote the result 2772 under the line.	Point to 2772 on pad.
When I mentally multiplied 396 by 50, I moved the pencil over one place to the left to write the result 1980.	Point to 1980 on pad and show that it was written one place to the left.
Finally I drew a line and mentally added 2772 and 19800 for my final answer which I wrote down on the pad as 22572.	Point to 22572 on pad.
Let me ask you students a question. Even though the amounts of 396 and 57 have been correctly written on the pad, do I know that the answer 22572 written on the pad is correct? No, I do not, for I might have made an error in my mental multiplication or in the addition. So I must either rewrite the problem and check my two answers, which should be the same, or I must mentally go over my figures the second time to prove my answer.	Point to the two multiplied items and indicate the mental addition by pointing.
You will now understand more clearly the machine method because we have reviewed together the necessary steps to pencil and paper figuring.	
I now clear the entire machine by turning the clearout crank away from me and toward me once and depressing the master clear key for the keyboard.	Turn clearout crank forward and backward once. Depress master clear key.
I told you before that multiplication on the Monroe Educator was repeated addition so I must depress this small red key marked "R", before I can multiply.	Depress Repeat Key.
Then I write 396 on the extreme right of keyboard. That is the equivalent of writing 396 on the scratch pad.	Set 396 on keyboard in 1st, 2nd and 3rd columns of keys. Point to 396 on scratch pad.

What to Say	**What to Do**
With the carriage at extreme left of machine -	Point to carriage position.
I write the 7 of the multiplier 57 in the 1st upper dial by turning this operating crank away from me as many revolutions as is necessary to show 7 in the 1st right-hand upper dials.	Turn operating crank forward seven times. Point to 7 in upper dials.
Note that in the lower dials 2772 appears, which is the same amount I wrote on the paper for my first mental multiplication.	Point to 2772 in the lower dials.
Suppose students that I made a mistake and turned this crank eight times, note that the upper dials shows 8 which I know is wrong and the lower dials show 3168 which is also the wrong answer.	Turn crank forward one more turn. Point to 8 in upper dials and to 3168 in lower dials.
How do I correct that error? It is easy. With this machine, there is an automatic eraser. I merely turn this operating crank towards me one complete turn and now I have corrected the 8 to a 7 in the upper dials and 3168 to 2772 in the lower dials. That is simple, isn't it?	Turn crank backwards once and point to 7 in upper dials and to 2772 in lower dials.
Now I have multiplied by 7. You will remember when I multiplied by 50 with pencil and paper, I wrote my answer one place to the left. I now do the equivalent on the machine by moving the carriage one place to the right with this carriage shift lever.	Point to 5 and also to 1980 on pad. Move carriage one place to right with carriage shift lever.
I am now ready to multiply by 50, so, in the same manner, I turn this crank away from me as many turns as necessary to write 5 in the second upper dial.	Turn crank forward five times.
You will now see that with machine operation, it is unnecessary to write the 1980 and now automatically in the lower dials of the machine you can see the correct answer 22572. You will also notice	Point to 1980 on pad. Point to 22572 in the lower dials. Point to 2772 and 19800 on scratch pad.

What to Say	What to Do
that it was unnecessary on the machine to make the addition of 2772 and 19800.	
When multiplying on the Monroe Educator, you can prove your work without doing the example over again by rewriting it or mentally refiguring it. Here is the method of proof.	
What do you see in the upper dials? You see 57 and that is the correct multiplier. What do you see depressed on the keyboard? You see 396 and that is the correct multiplicand. Therefore, you now know that the answer in the lower dials 22572 is the correct answer because the machine will mechanically give the correct answer if you write the correct figures on the keyboard and upper dials. When copying 22572 from the lower dials, always compare your copied answer with the dials answer.	Point to 57 in upper dials. Point to 396 depressed on keyboard.
I now clear the entire machine by depressing the master clear key and turning the clearout crank once away from me and toward me.	Depress master clear key and clear upper and lower dials with clearout crank.

Division Demonstration

Once again the teacher should indicate on a scratch pad the Division example below and the pencil and paper method of handling long division so that the students will more clearly see the relationship between scratch pad and machine calculation.

Example: 1836 ÷ 68 = 27

Scratch Pad Method:

68/ 1836 /27
136
476
476
000

What to Say	**What to Do**
I have divided 1836 by 68 on this scratch pad, in the same manner as you students would figure this example with pencil and paper. Again this has been done to make it easier for you to understand the machine method and the differences in the pencil and paper method.	Point to long division example on the pad.
Before I show you the machine method, suppose I review for you what I did with pencil and paper. First I wrote down in proper form the divisor and dividend. Then I guessed that 68 would go into 183 twice and wrote down 2. Then I multiplied mentally 2 times 68 and wrote down the result 136 and drew a line under same.	Point to 68 and 1836 on pad. Point to 2 in quotient position and to 136 on pad.
Then I subtracted 136 from 183 and wrote down 47 the remainder. Since 68 cannot be divided into 47, I borrowed or brought down 6 from the dividend. Then I guessed that 68 would go into 476 seven times and wrote 7 in the space for the quotient. Then I mentally multiplied 7 times 68 and found that it equaled 476 my dividend and wrote down 476.	Point to 47 on pad. Point to 6 which was borrowed on pad. Point to 7 on pad in quotient position and finally to 476.
Let me again ask you a question. When you guess how many times a divisor goes into a dividend, do you sometimes guess wrong? Yes, you do and if you do, you do not know you have guessed wrong until you multiply it out mentally. Then you must rub everything out and guess again and write it down. Am I right? And do you know definitely whether you have mentally made the correct multiplication of divisor times guessed quotient figure or whether you have subtracted correctly. No, the only way to prove it is to do the work over again or multiply the quotient by the divisor to see if the result equals or nearly equals the dividend.	Point to pad figures. Point to pad figures.

You will now understand more clearly the machine method for division because we have reviewed together the necessary steps to pencil and paper figuring.

What to Say	**What to Do**
I now clear the entire machine by turning the clearout crank away from me and then towards me once, and depress the master clear key for the keyboard.	Turn clearout crank forward and backward once. Depress master clear key.
I told you before that division on the Monroe Educator was repeated subtraction, so I must depress this small red key marked "R" before I can divide.	Depress Repeat Key.
I will now write 1836 on extreme right of keyboard and turn operating crank once away from me which writes 1836 in the lower dials. I now clear the keyboard with master clear key and the count of one addition in upper dials is cleared with one turn forward of the clearout crank.	Depress 1836 in 1st, 2nd, 3rd and 4th columns of keys on right of keyboard. Turn clearout crank forward once. Depress master clear key. Turn clearout crank forward once.
Next I write 68 on extreme right of keyboard. I have now written the divisor 68 on the keyboard and the dividend 1836 in right of lower dials. The quotient or answer will eventually appear in the upper dials which are now clear.	Depress 68 in 1st, 2nd columns of keys on right of keyboard. Point to depressed 68. Point to depressed 1836 in lower dials. Point to upper dials.
Let us look at the scratch pad figures again. When I made the mental guess for my first division, I did not try to divide 68 into 18 because it would not go. Nor did I try and divide 68 into 1836. I know my proper first dividend was 183. Since machine division is repeated subtraction, we must position the carriage so that 68 can be subtracted from the first dividend 183. So I move the carriage one place to the right, with the carriage shift lever. If I moved two places to the right you can easily see that 68 would be subtracted or divided into 18	Point to problem on pad. Point to 18 and 68. Point to 1836 and 68. Point to 183. Move carriage one place to the right. Move carriage again to right. Move carriage one place to the left.

What to Say	**What to Do**
which is impossible. So I will move it back again once.	
In machine division, I do not have to guess how many times the divisor goes into the dividend. I merely turn the operating crank towards me until I hear a bell ring.	Turn operating crank backwards three times – Bell rings.
Now that bell indicates I have divided or subtracted too many times. To correct, I turn operating crank forward until the bell rings again. Then I am correct.	Turn operating crank forward once. Bell rings again.
The upper 2nd dials now shows 2 the first figure of my quotient and the lower dials show the remainder 476. Note that this is what we had on the pad.	Point to upper dials 2 and to 476 in lower dials. Point to pad.
Since I cannot divide 68 into 47 and the bell on the machine told me so, I must borrow or bring down the 6 as I did on the pad. I do this by moving carriage one place to the left.	Point to pad. Shift carriage one place to left.
My new dividend now is 476. Therefore, I turn the operating crank rapidly towards me until I hear bell ring. This time I turned beyond the bell ring and the first upper dial shows 9. I know that this result is wrong because the bell rang, but I do not know how wrong it is. Now the machine will tell me. I turn the crank slowly away from me until the bell rings again. It took two turns of the crank.	Turn operating crank backward nine turns. Point to 9 in 1st upper dials. Turn operating crank forward twice. Bell rings again.
Upper dials now show 27 which is the correct answer and lower dials are clear because the divisor went into the dividend evenly. If it did not go evenly, there would be a remainder left in the lower dials. The keyboard still shows the divisor 68.	Point to 27 in upper dials. Point to lower dials. Point to 68 on keyboard.

What to Say	What to Do
To clear the machine, I depress the master clear key and turn dials clear crank one turn away from me.	Depress master clear key. Turn clear crank forward once.
To review the Monroe Educator method of division, I first added the dividend. Wrote the divisor on the keyboard. Lined up the divisor and dividend by moving the carriage. Then by repeated subtraction, until the bell rang, I divided and then insured a correct answer by ringing the bell the second time. I then shifted the carriage and again subtracted until the bell rang and rang it again thus finally securing the correct answer without any guess work or mental operation and with mechanical proof that my answer was correct due to the bell.	Make motion of adding with crank. Move carriage. Make motion of repeated subtraction with crank. Make motion of correcting bell. Shift carriage. Repeat same simulated process on machine.

Teaching Material

Office Machine Instruction in schools or colleges is ineffective, unless proper teaching material is available for use with such equipment. Any teaching material should be well planned and practical for class room use.

The Educational Department of the Monroe Calculating Machine Company, Inc. recognized many years ago the necessity for this type of teaching material and now has available, for all models of machines including the Monroe Educator, material that has been tried and tested in practical use for over ten years. To aid the teacher in the selection of material for the Monroe Educator, we describe and list, in the following pages of this Guide, the material available for this model.

Fundamental Instruction Cards

Before office employees can make effective use of Monroe Calculators, they must learn how to add, subtract, multiply and divide on the machine or perform the four fundamental operations of Arithmetic. Similarly, before any teacher can instruct students in the application of the Monroe Educator to business figures, she must teach these students how to add, subtract, multiply and divide on the machine.

Since most Office Practice classrooms have a variety of equipment it is important for the teacher to have material for teaching Calculating Machine Fundamental Operations that is of the self-instructional type. This saves the teacher time and reduces, to a minimum, individual student attention that would be necessary if there was no fundamental instruction material available of this type.

The Monroe Calculating Machine Company, Inc. has material of this type for the Educator and other models of the Monroe Calculator. The material was written and developed by an experienced New York City vocational teacher over ten years ago, who was confronted with the problem of teaching fundamental operations on the Monroe Calculator to a class of 35 students, each of whom was using a Monroe Calculator. Since its original publication, thousands of these Fundamental Instruction Cards have been used by teachers throughout the United States proving their practical value. These cards are furnished at no charge and are briefly described in the following paragraphs:

Fundamental Instruction Cards (Whole Numbers) - Form XSS-177-1 to 5 inclusive There are five cards to this set, covering fundamental instructions for whole numbers in the following operations:

Addition – Multiplication
Multiplication of Numbers Containing Ciphers
Subtraction – Division

On the back of each card are sample problems for the student to use to achieve sufficient practice in the subject covered by the card.

The cards are durable and printed in legible type and can be used by many classes before they are worn out.

Fundamental Instruction Cards (Decimals) - Form XSS-178-1 and 2 There are two cards to this set. One covering instructions in decimals for Addition and Multiplication. The other covering similar instructions in decimals for Subtraction and Division.

All classes in the Monroe Educator should be taught with these cards at the start of their training and before the students do the work of the Office Practice Course.

Educator Office Practice Course

After students have learned the four fundamental operations with the Fundamental Instruction Cards, previously described, they should be given the Educator Office Practice Course.

This course contains 30 lessons or assignments. It has a Teacher's Manual containing answers to the problems in the Course.

One of these Courses with Teacher's Manual is furnished at no charge with each Monroe Educator purchased. Additional copies can be obtained at a nominal charge.

These Courses were developed with the advice of teachers and, after many years' use in schools, have proven to be practical. Each assignment is graded for a forty-minute period. There is a proper amount of review and drill and tests are furnished at the end of each five assignments.

School Manual of Instruction

The School Manual of Instruction is a clothbound book of over 200 pages containing figure problems of a dozen major lines of business. An Answer Book is also furnished with each Manual.

Schools use this School Manual as a source book for securing additional problems in a dozen lines of business to supplement Office Practice Course assignments. If it is found necessary for specific vocational training in any one line of business, the Monroe School Manual is the source for those problems. Colleges and Vocational Schools use the School Manual for advanced training material they wish to give beyond the limits set by the Office Practice Course.

There are no graded assignments in the Monroe School Manual of Instruction, but there is plenty of material for review and drill. No tests are furnished with the School Manual. The school or college has a choice of either, but not both, the Educator Office Practice Course or the Monroe School Manual to be furnished at no charge with each machine purchased. Additional copies can be purchased at a nominal charge.

Educator Wall Poster

This is a 40" X 30" colored wall chart with an enlarged cut of the Monroe Educator Model and a brief set of instructions printed on the chart for fundamental operations. It is an excellent teaching aid for the teacher and it provides an attractive illustration for the classroom blackboard or bulletin board. One of these Wall Posters will be furnished to any Educational institution at no charge.

Educational Uses for the Educator Model

All types of Educational institutions are using the Monroe Educator Model to cover a wide variety of subjects. We cannot fully cover all phases of their uses but list below some of the types of institutions and some of their applications.

Types of Educational Institutions

High Schools
Junior High and Grade Schools
Parochial High Schools
Private Business Schools
Private Schools
Vocational Schools
Colleges and Universities
Technical Colleges and Institutes
Junior Colleges
Teachers and Normal Schools

Uses for the Monroe Educator

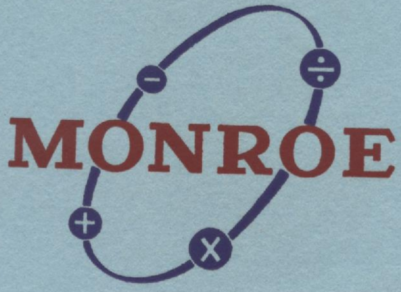
Office Practice Instruction

Use as a mechanical scratch pad for students in:

- Business Arithmetic classes
- Arithmetic classes
- Biostatistics classes
- Engineering classes
- Calculating Machine Laboratory in Colleges

Administrative Statistics

Cafeteria Food Control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